

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A power supply comprising:
 - a rectifying unit for rectifying an AC power into a first DC power and a second DC power and outputting the first and the second DC power;
 - a main power supply transformer for boosting the first DC power and outputting the boosted first DC power to an output;
 - a switching controlling unit driven by the second DC power, for performing an operation on said main power supply transformer which causes the first DC power to be boosted when the second DC power is received; and
 - a controlling unit for determining whether the second DC power is to be supplied to said switching controlling unit;
 - an auxiliary power supply transformer for boosting the second DC power; and
 - a photo-coupler for providing said switching controlling unit with the boosted second DC power based on an output signal of said controlling unit,
- wherein said controlling unit senses a voltage at the output, and interrupts supplying of the second DC power to the switching controlling unit if the sensed voltage exceeds a given value.

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2. (original): The power supply according to claim 1, wherein said controlling unit interrupts supplying of the second DC power to said switching controlling unit if the sensed voltage is a short-circuit voltage.

Claim 3 (canceled).

4. (currently amended): The power supply according to claim 31, wherein said controlling unit comprises:

a transistor for determining if the second DC power is to be supplied to said switching controlling unit.

5. (original): The power supply according to claim 4, wherein said transistor comprising an emitter terminal, a collector terminal, and a base terminal, is grounded at the emitter terminal, connected to an input terminal of a light-emitting diode of said photo-coupler at the collector terminal, and connected to the output at the base terminal.

6. (original): The power supply according to claim 5, wherein said transistor is implemented as a NPN-type transistor.

7. (original): The power supply according to claim 6, wherein said controlling unit further comprises:

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a zener diode connected between the base terminal of said transistor and the output, for turning on the transistor if the first DC power inputted to the output exceeds a given value.

8. (original): The power supply according to claim 7, wherein said controlling unit further comprises:

a diode connected between the collector terminal of said transistor and the output, for interrupting supplying of the second DC power to said switching controlling unit if the input terminal of the output is short-circuited.

9. (original): The power supply according to claim 8, wherein said controlling unit further comprises:

at least two voltage-dividing resistors having a first terminal and a second terminal, connected to the output at the first terminal and grounded at the second terminal, wherein said controlling unit is implemented for sensing the voltage that is supplied to the output on the basis of the voltage applied to said voltage-dividing resistors.

10. (original): The power supply according to claim 1, wherein said output is connected to an electrical device.

11. (original): The power supply according to claim 9, wherein said output is connected to an electrical device.

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12. (original): The power supply according to claim 1, wherein the AC power is externally supplied.

13. (original): The power supply according to claim 9, wherein the AC power is externally supplied.

14. (new): A power supply comprising:

a rectifying unit that receives an AC power and rectifies the AC power into a first DC power and a second DC power and outputs the first and the second DC powers;

a main power supply transformer that boosts the first DC power and outputs the boosted first DC power to an output device;

a switching controller unit that receives the second DC power from said rectifying unit and controls whether the first DC power is provided to said main power supply transformer;

a fault controller unit that controls whether the second DC power is supplied to said switching controller unit, wherein said fault controller unit receives and senses the boosted first DC power provided to the output device and interrupts the supply of the second DC power to said switching controller unit if the sensed voltage exceeds a first predetermined value or if the sensed voltage is below a second predetermined value and wherein further, said fault controller unit is operable to sense both the overvoltage condition where the sensed voltage exceeds a first

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predetermined value and the undervoltage condition where the sensed voltage is below a second predetermined value.

15. (new): A power supply as recited in claim 14 wherein said fault controller unit comprises a transistor the base of which is connected to the anode of a zener diode.

16. (new): A power supply as recited in claim 15 wherein the cathode of the zener diode is connected to the cathode of another diode.

17. (new): A power supply as recited in claim 16 wherein the anode of the another diode is connected to a voltage divider circuit, wherein the voltage divider circuit is also connected to the boosted first DC power provided to the output device.